**FIGURE 1**

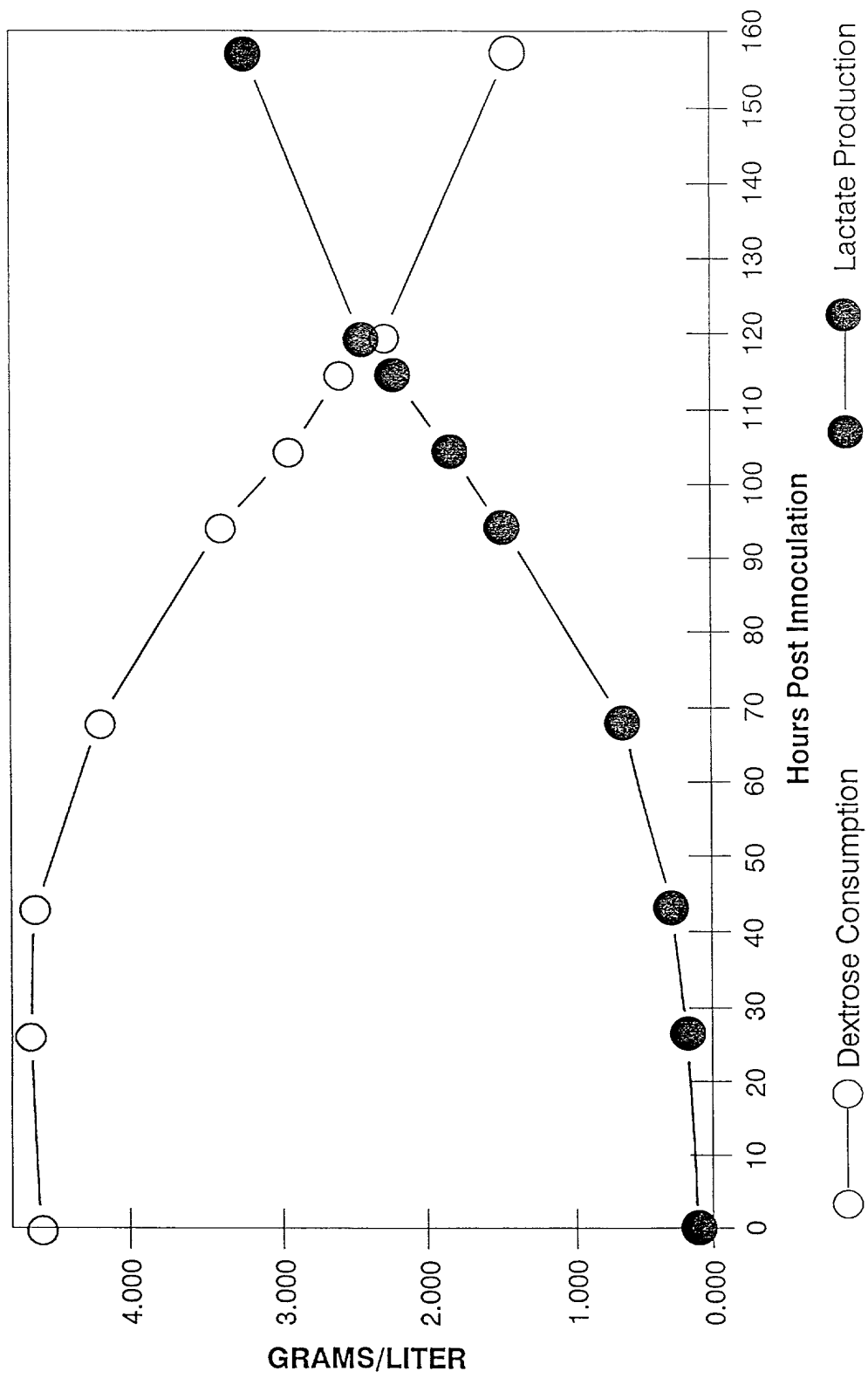


FIGURE 2

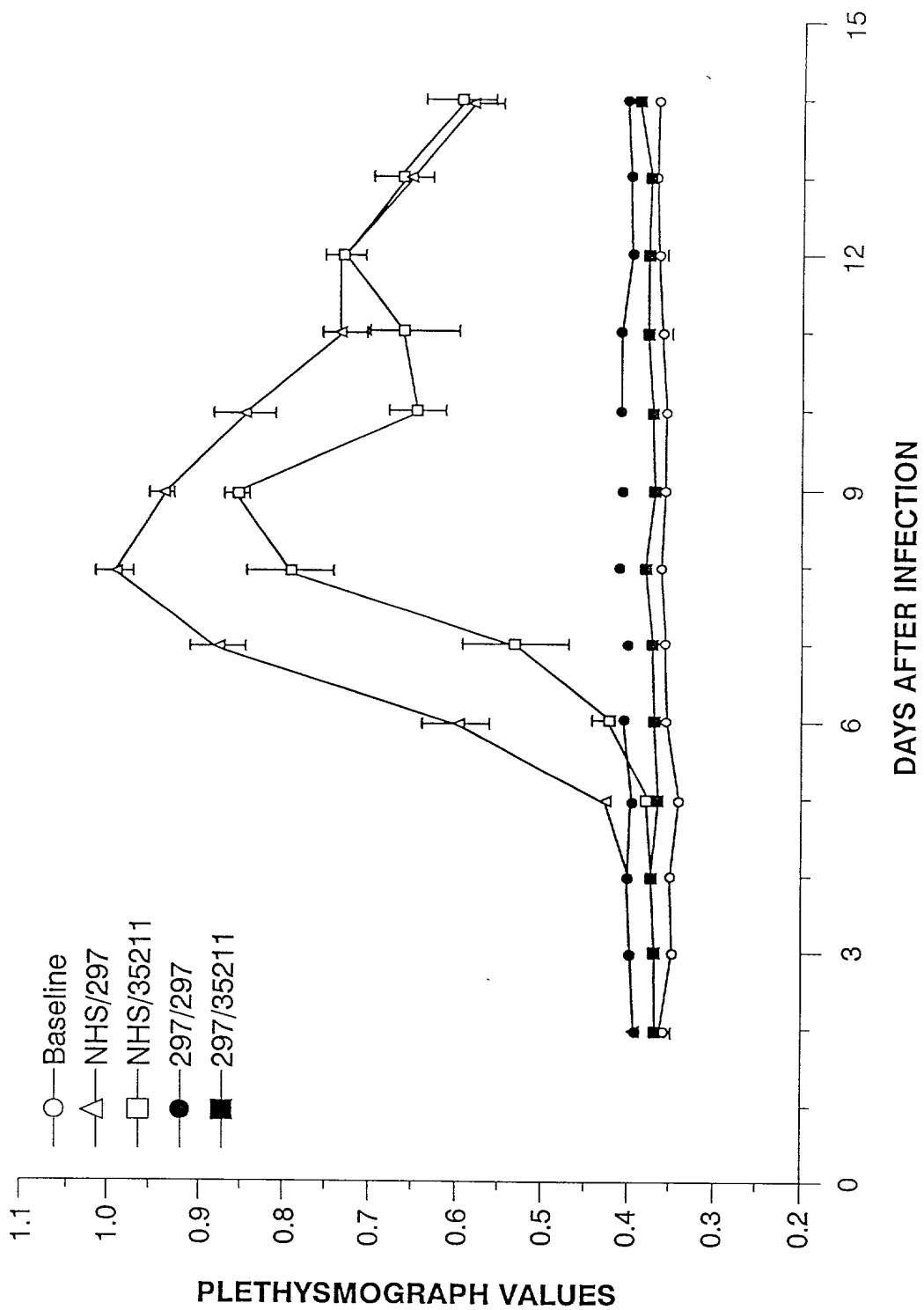
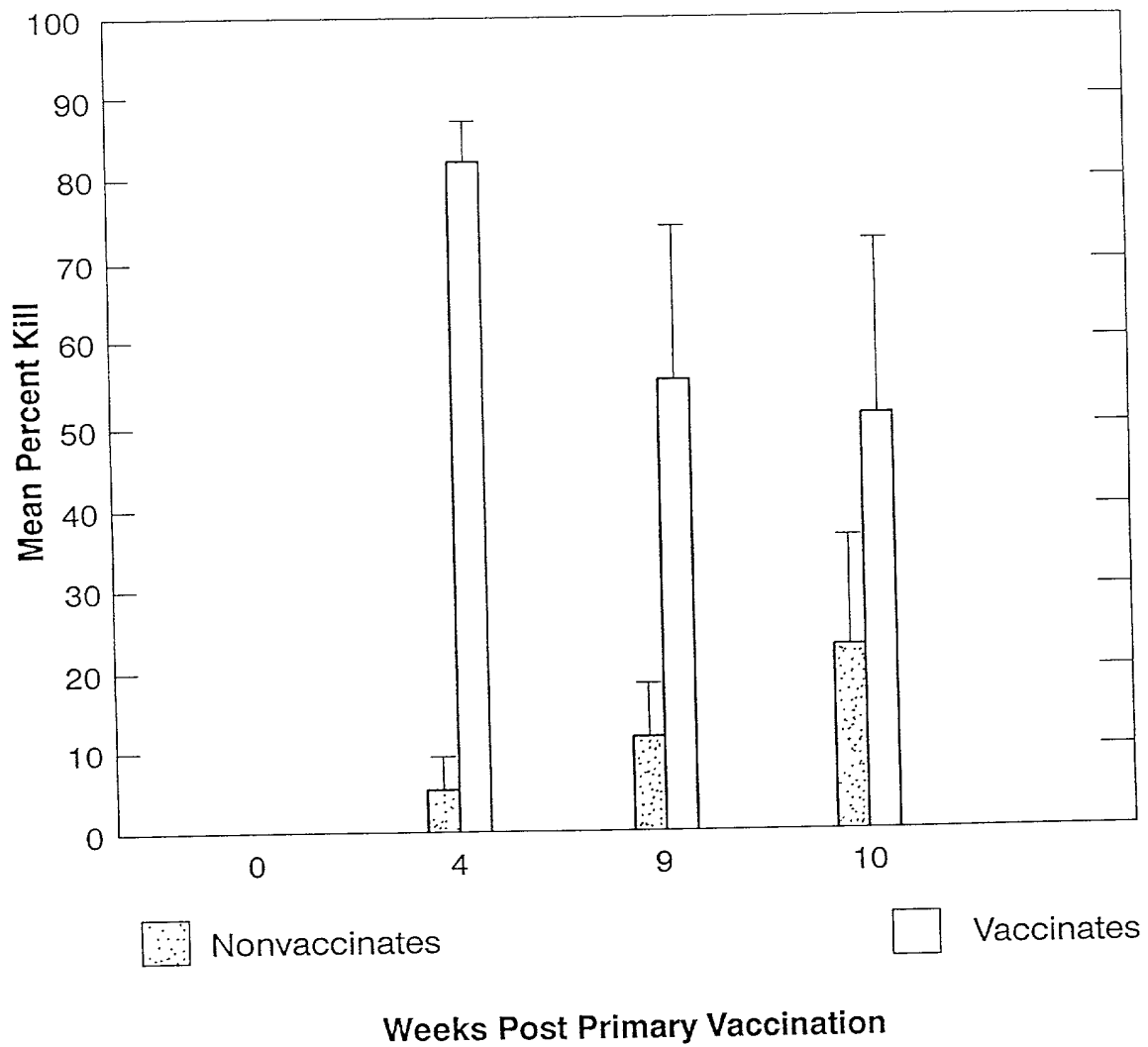
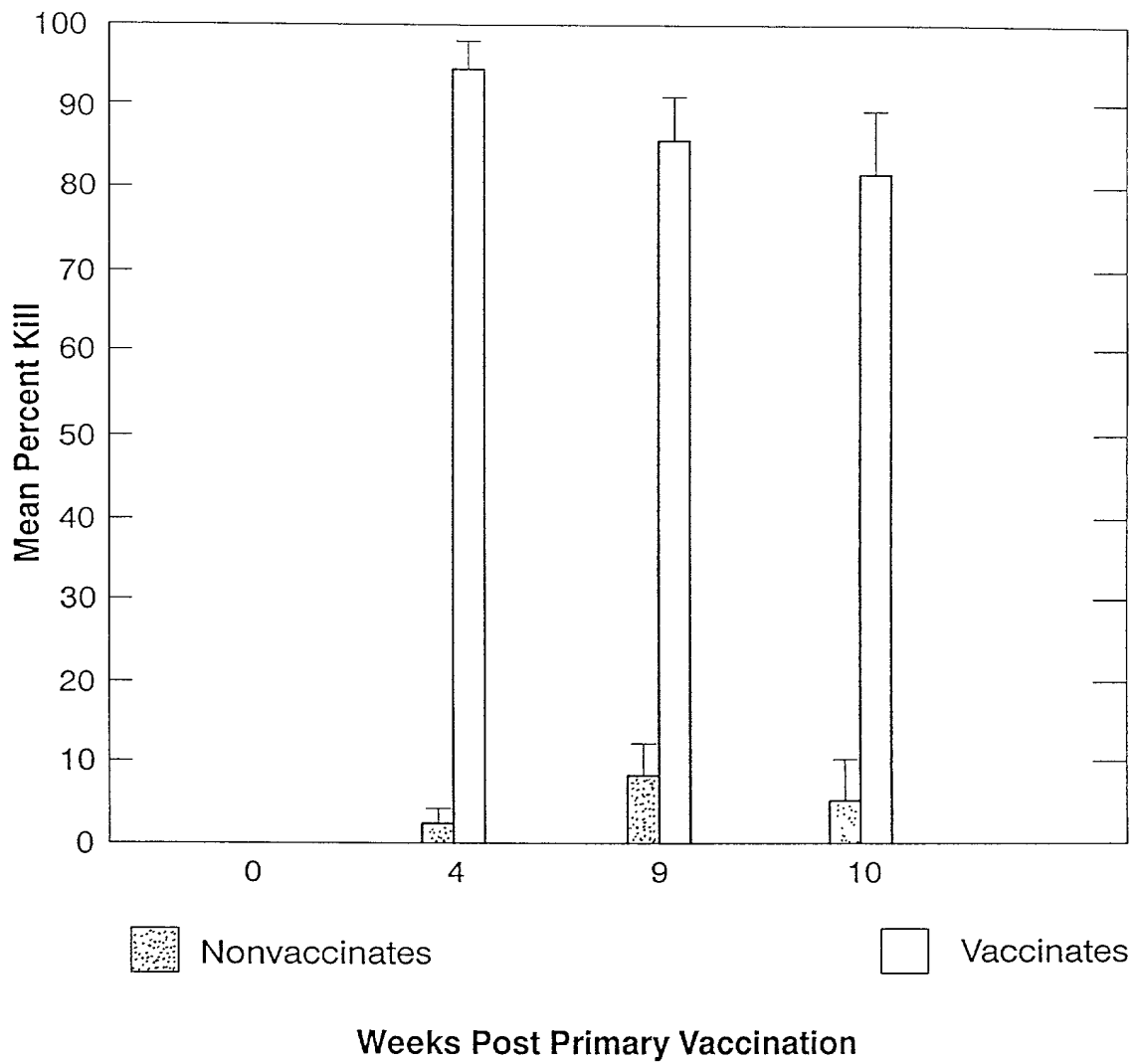
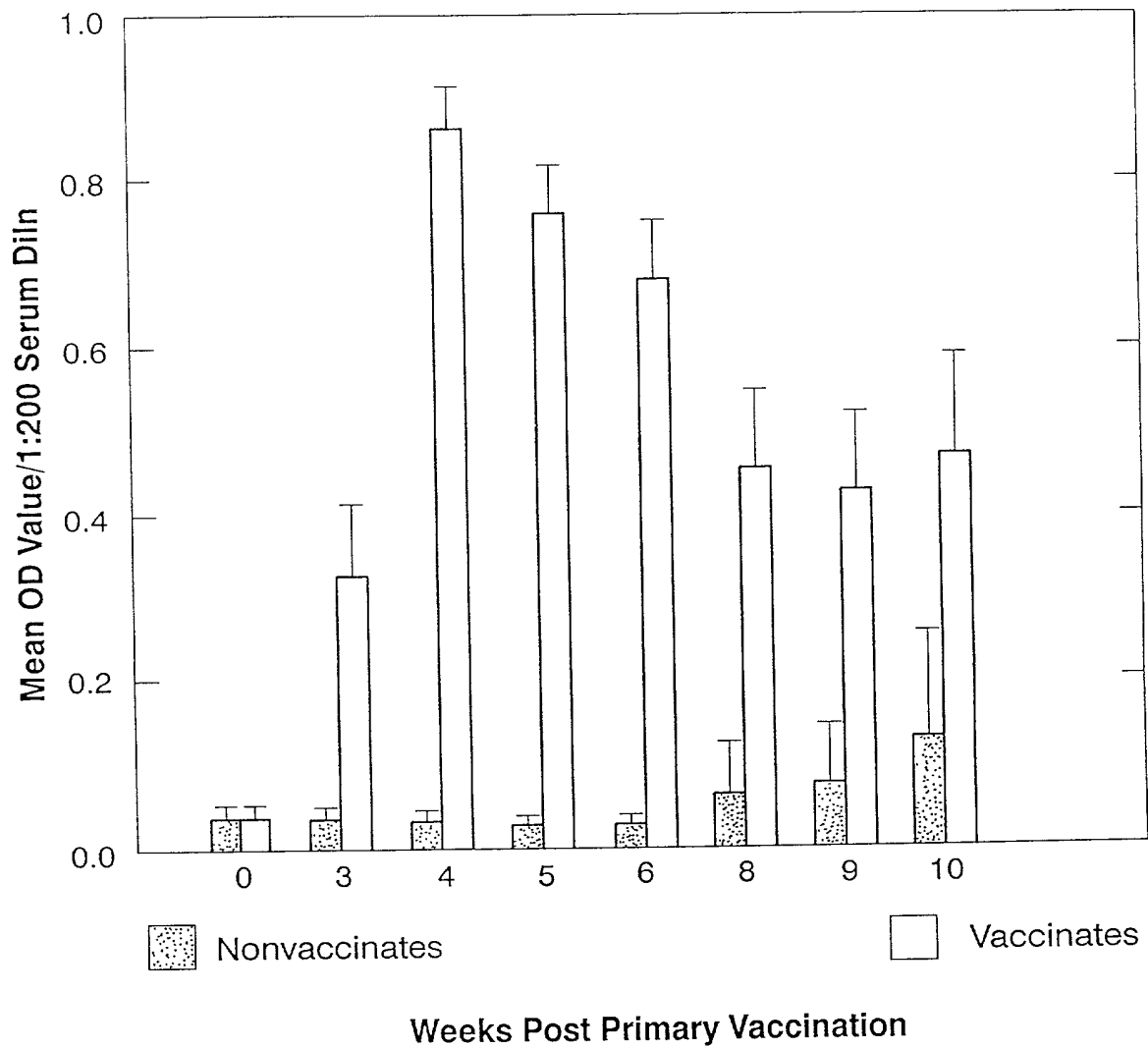
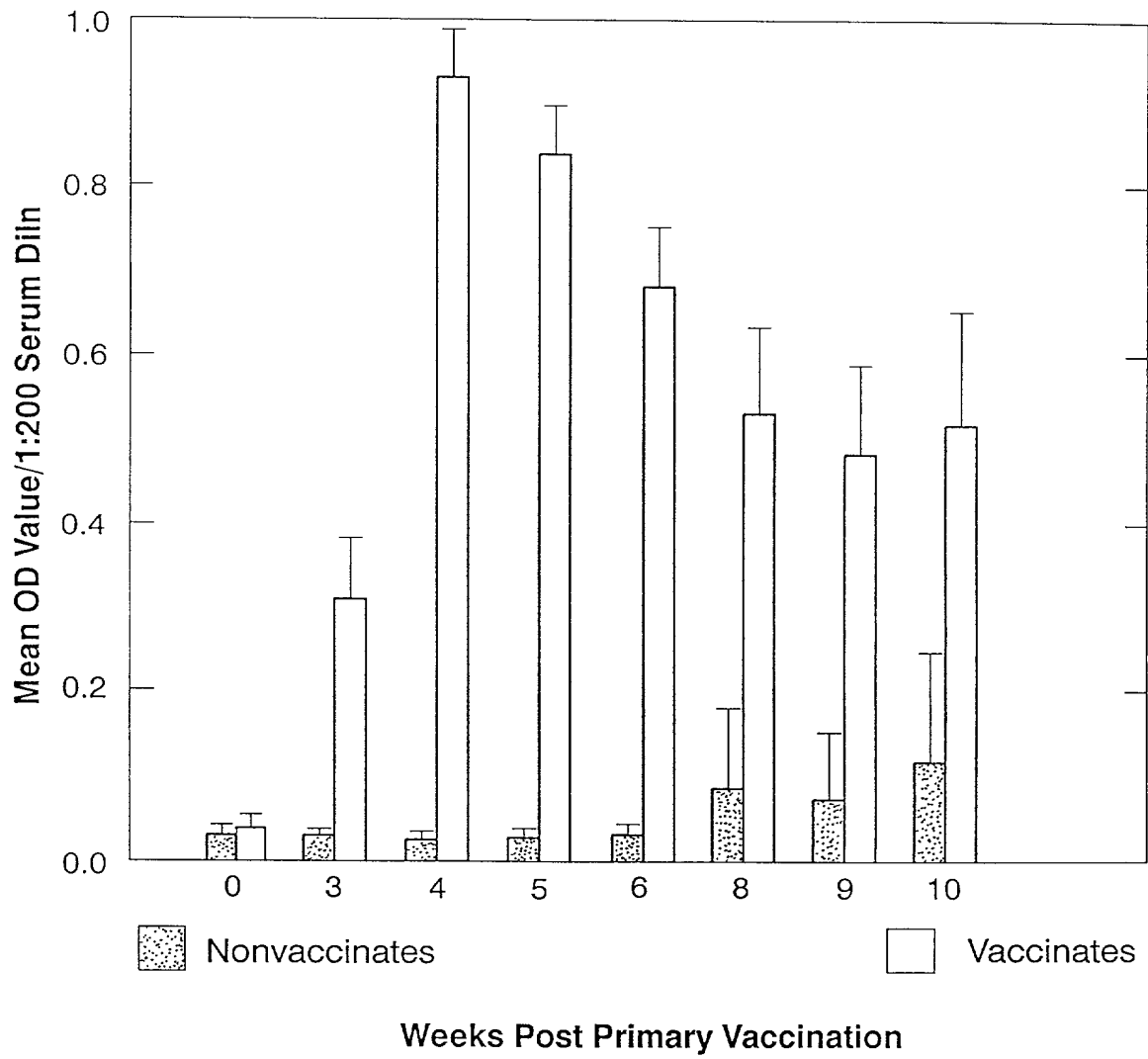


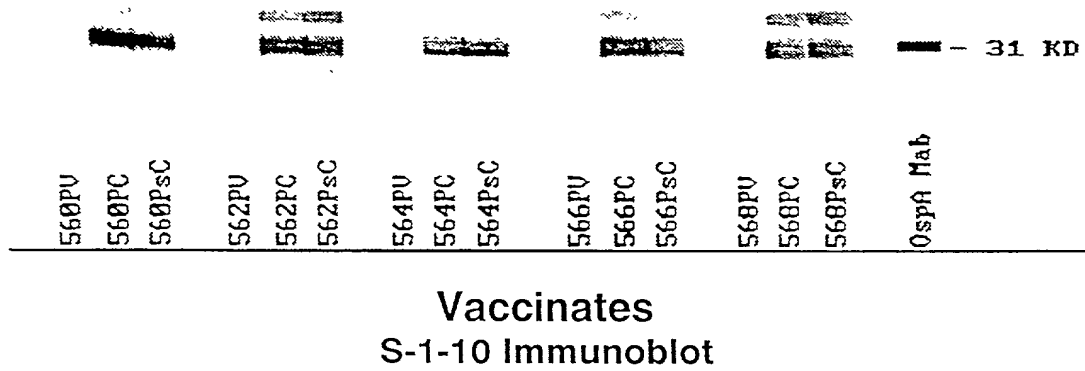
FIGURE 3

**FIGURE 4**

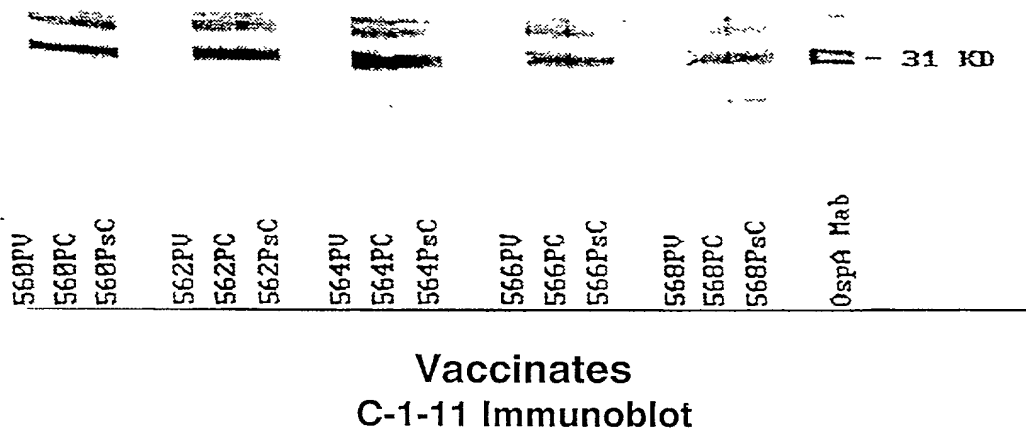
**FIGURE 5**

**FIGURE 6**

**FIGURE 7**



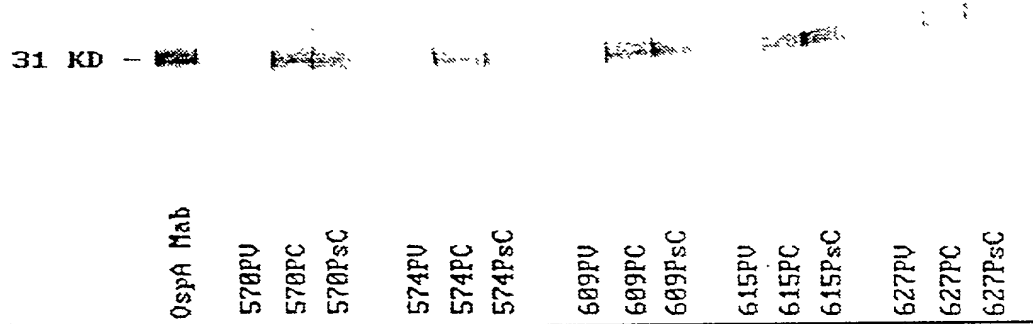
**FIGURE 8A**



**FIGURE 8B**

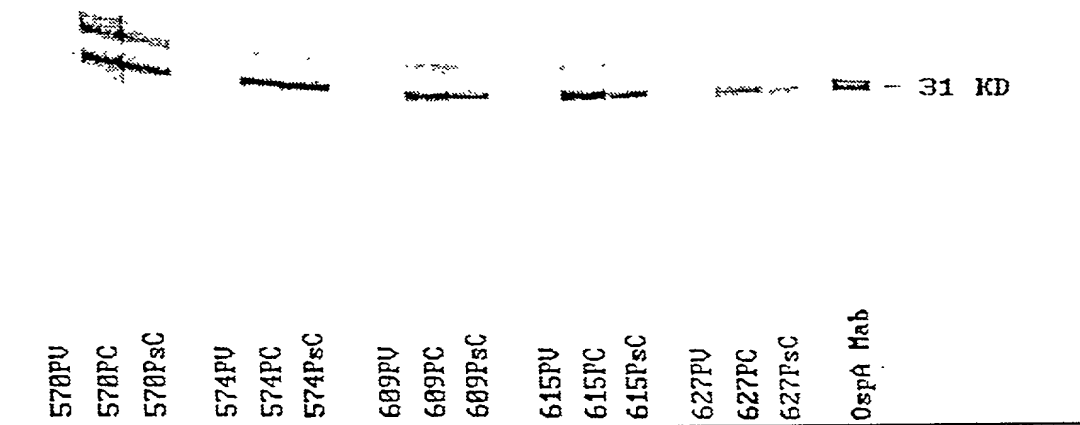


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Vaccinates  
S-1-10 Immunoblot

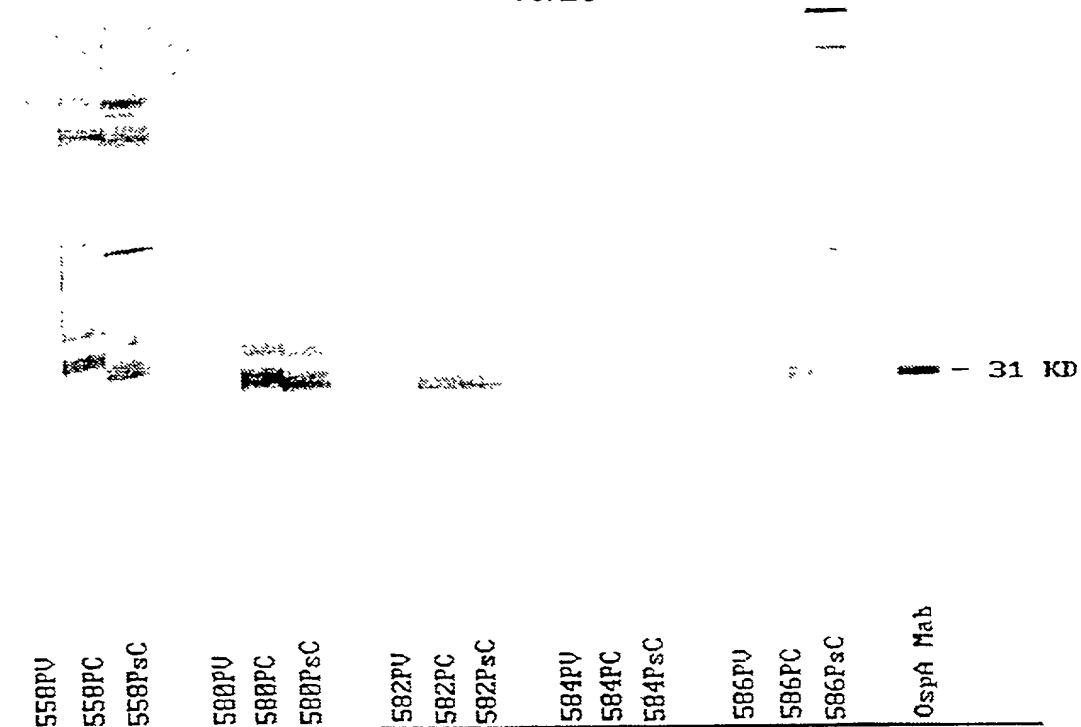
FIGURE 9A



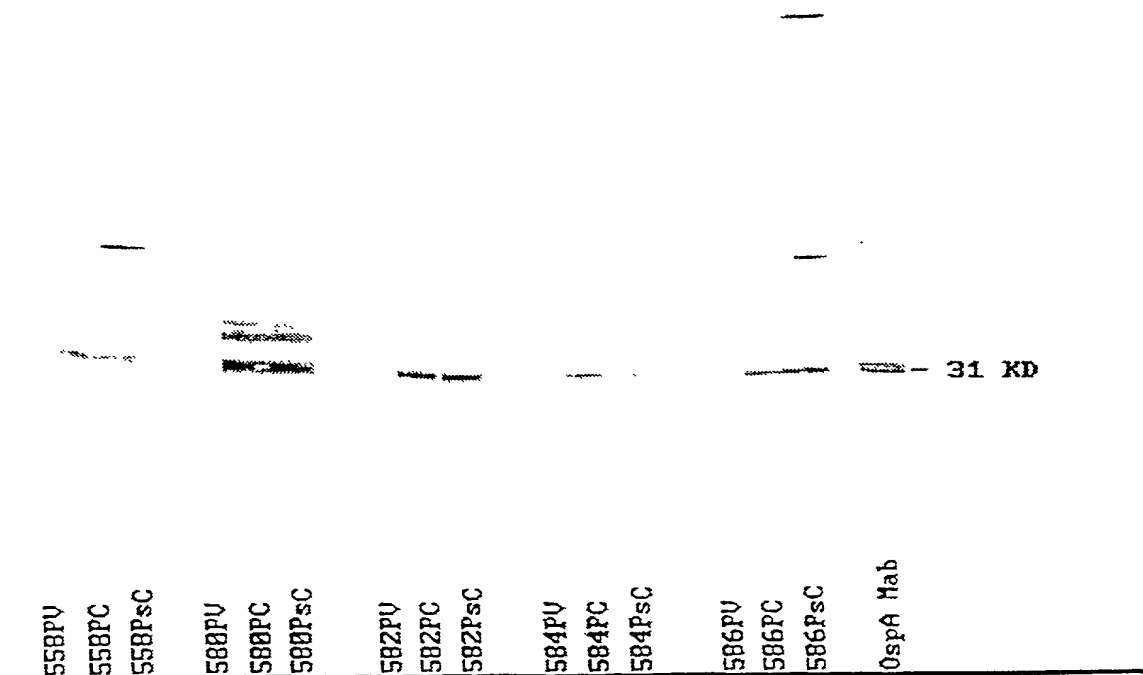
Vaccinates  
C-1-11 Immunoblot

FIGURE 9B

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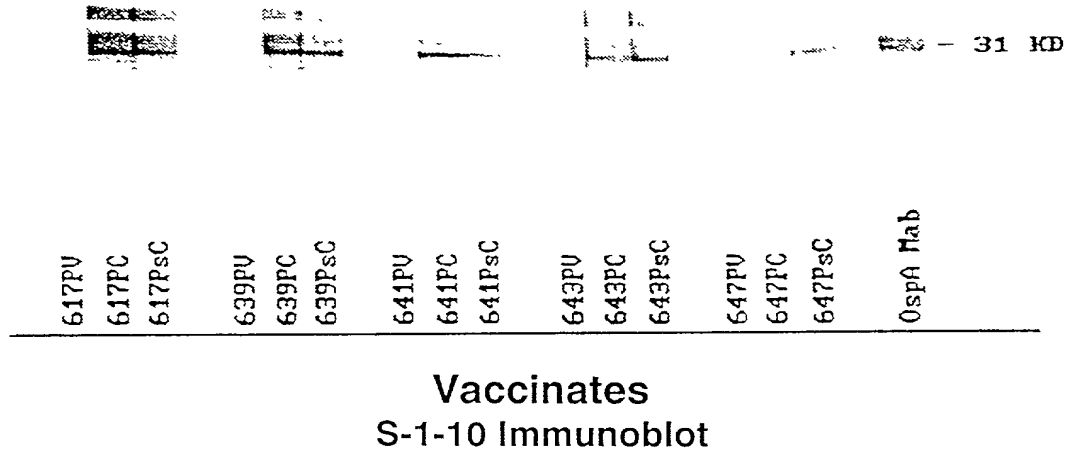


Vaccinates  
S-1-10 Immunoblot  
**FIGURE 10A**

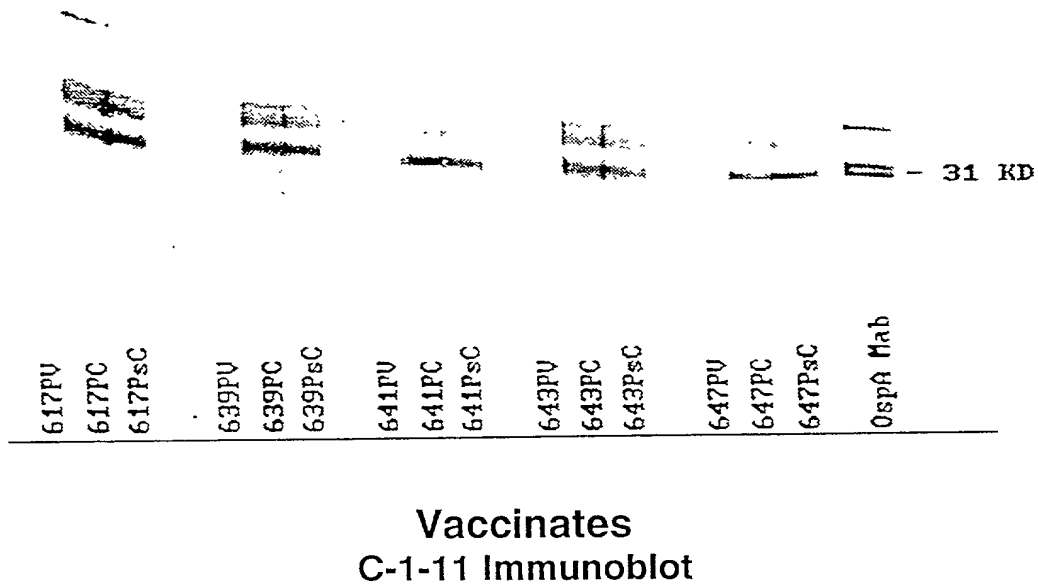


Vaccinates  
C-1-11 Immunoblot  
**FIGURE 10B**

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**FIGURE 11A**



**FIGURE 11B**

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-186KD

-88KD

-49.5KD

-32.5KD

-31KD OspA

-27.5KD

667 673 671 669 665 663 661 655 651 612 610 608 598 556 554 Mab

Nonvaccinates Prechallenge  
S-1-10 Immunoblot

## FIGURE 12A

-186KD

-88KD

-49.5KD

-32.5KD

-31KD OspA

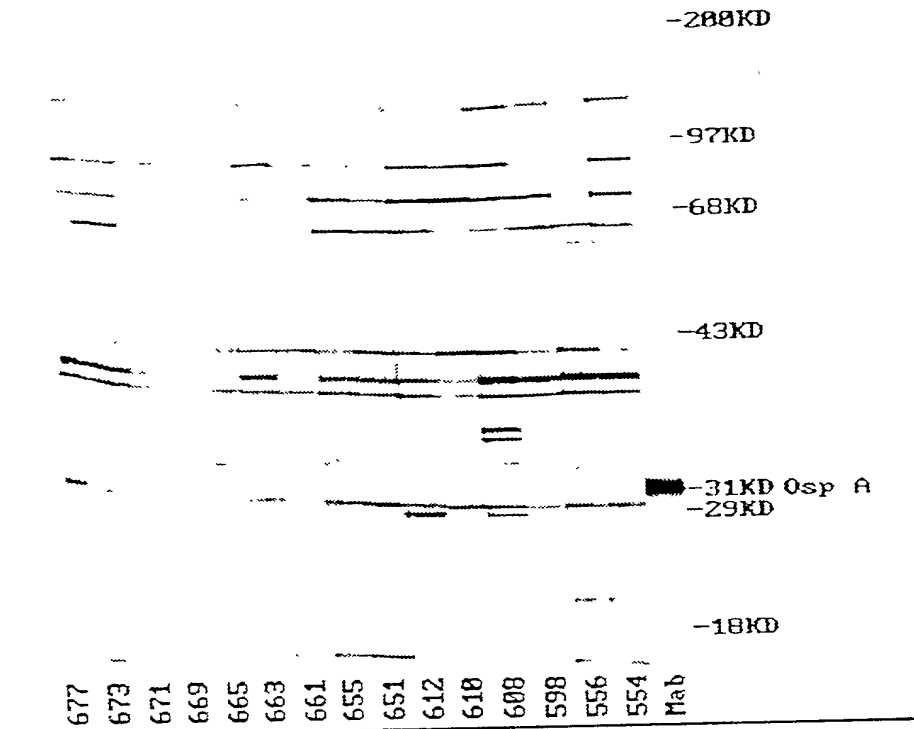
-27.5KD

677 673 671 669 665 663 661 655 651 612 610 608 598 556 554 Mab

Nonvaccinates Prechallenge  
C-1-11 Immunoblot

## FIGURE 12B

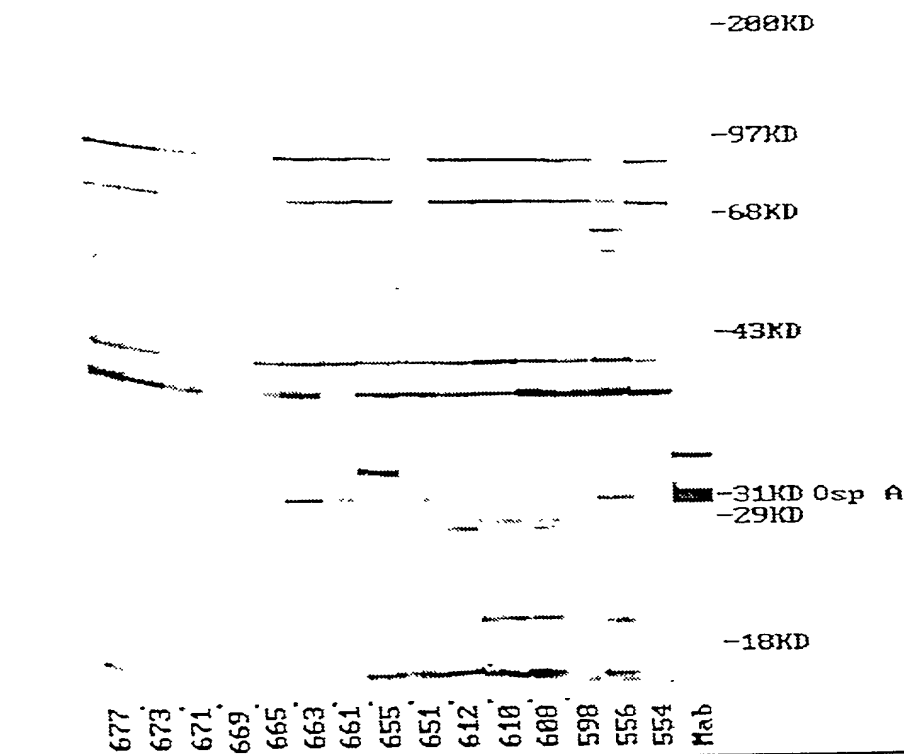
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Nonvaccinates Postchallenge

S-1-10 Immunoblot

**FIGURE 13A**



Nonvaccinates Postchallenge

C-1-11 Immunoblot

**FIGURE 13B**

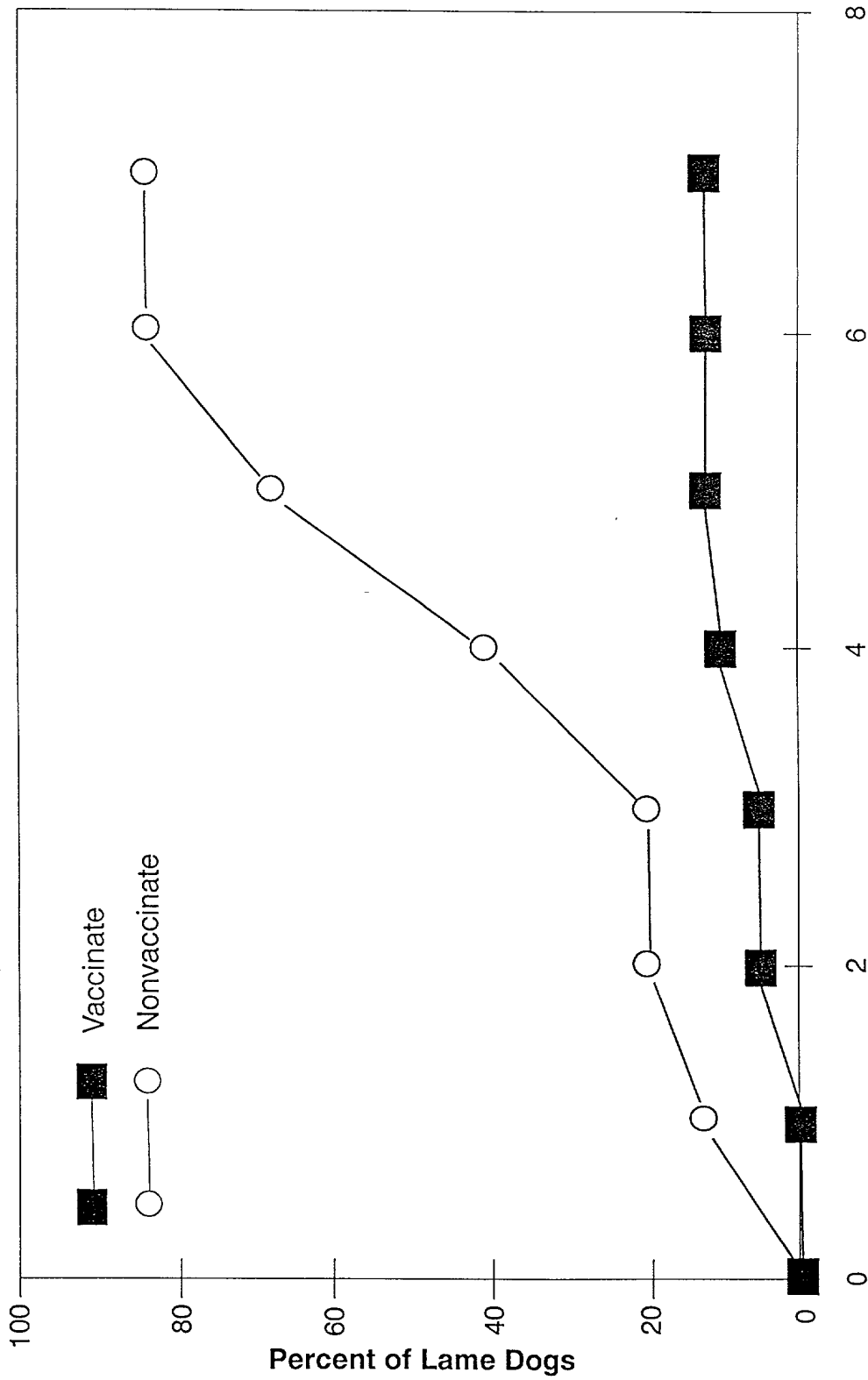


FIGURE 14

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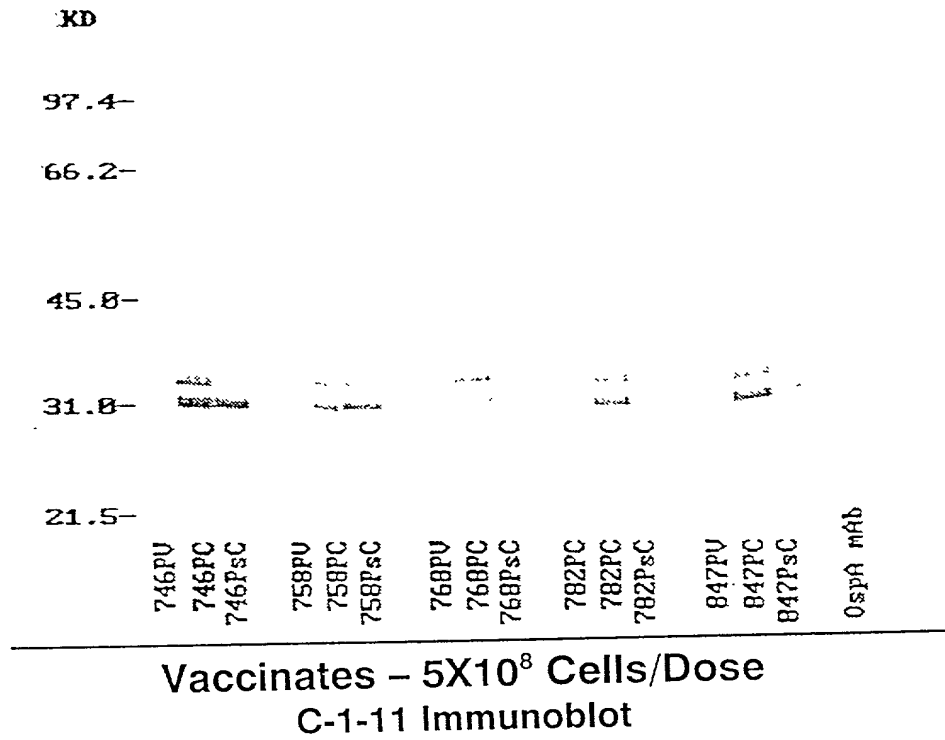


FIGURE 15A

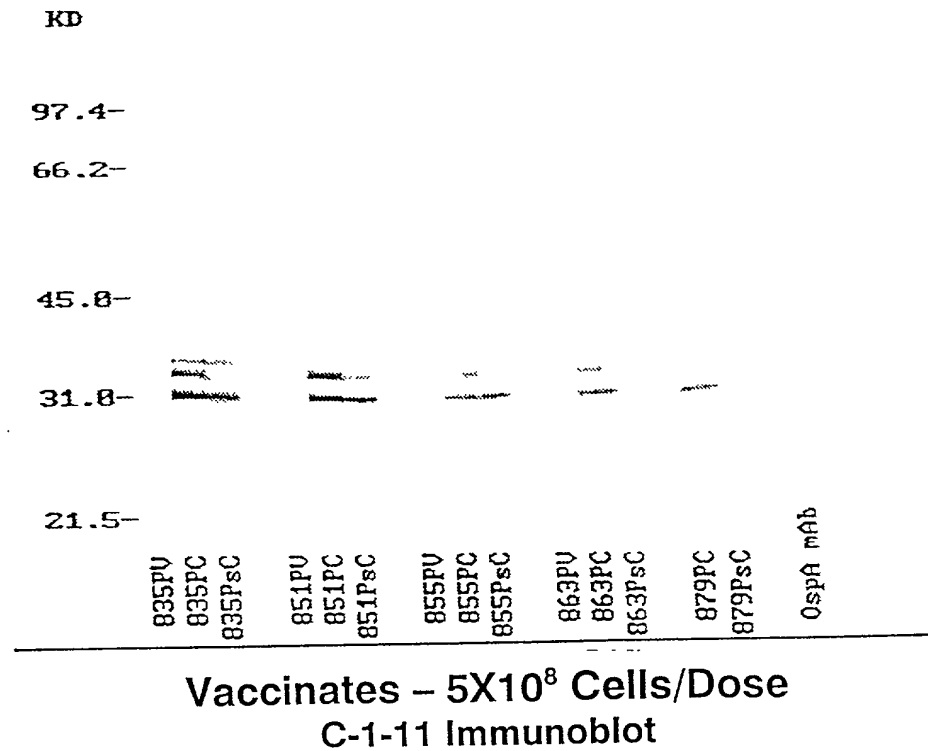


FIGURE 15B

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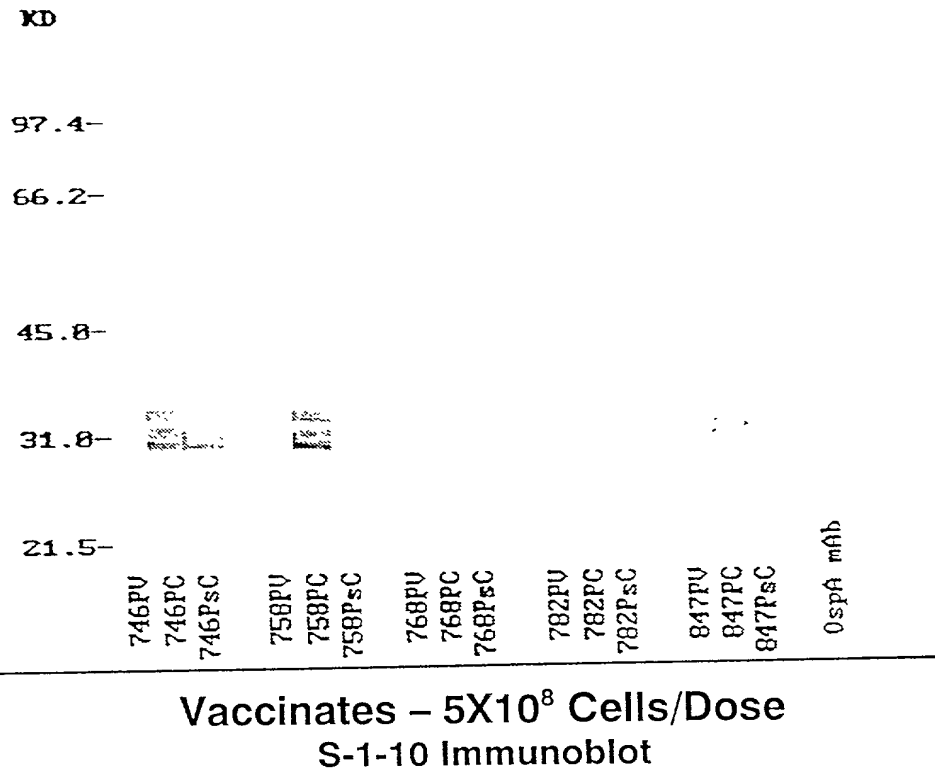


FIGURE 16A

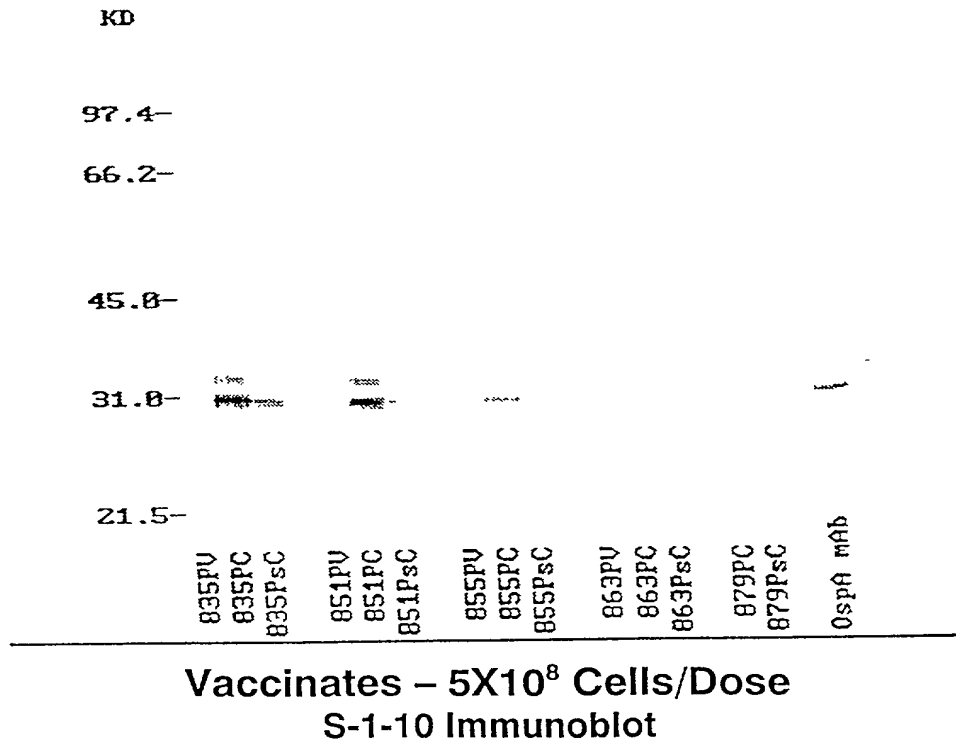


FIGURE 16B



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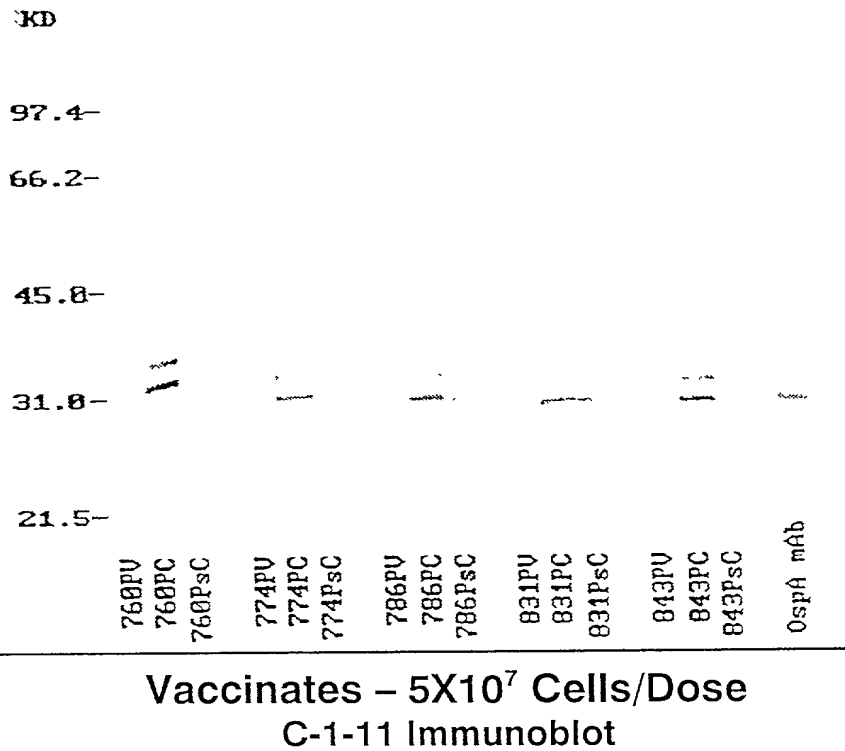


FIGURE 17A

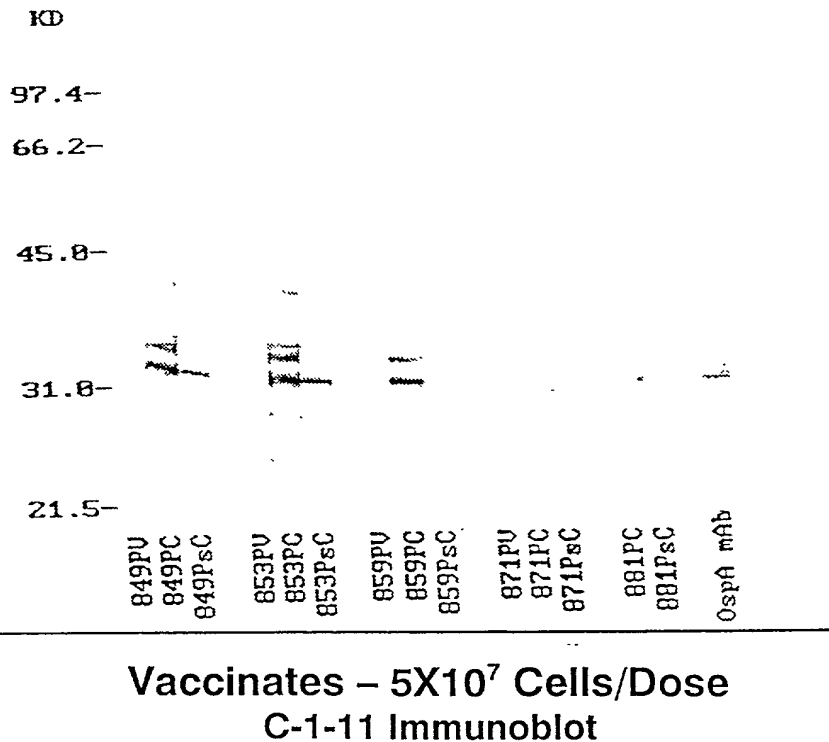
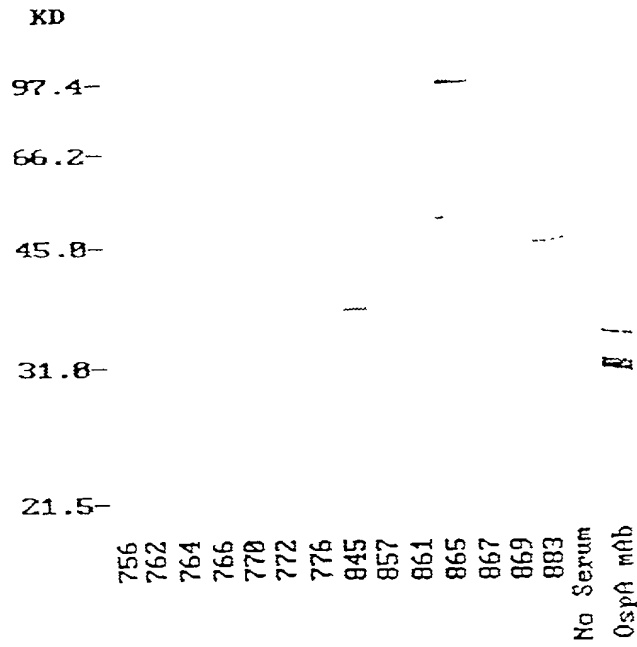
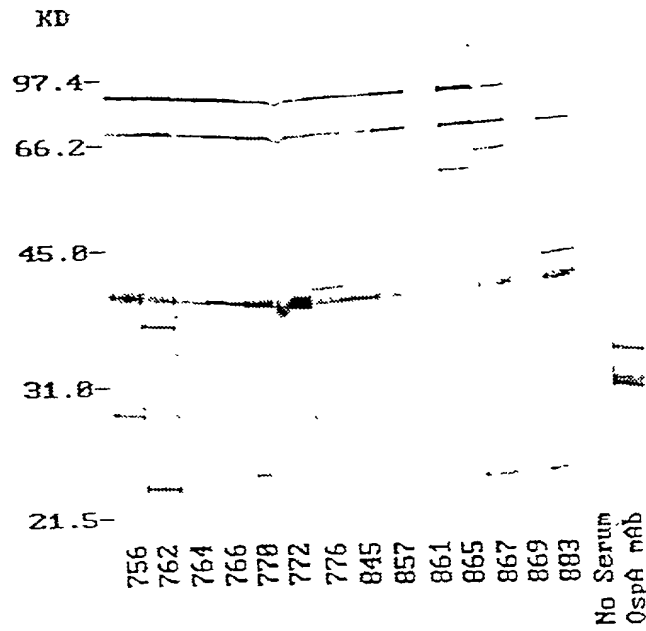


FIGURE 17B



Nonvaccinates Prechallenge  
C-1-11 Immunoblot

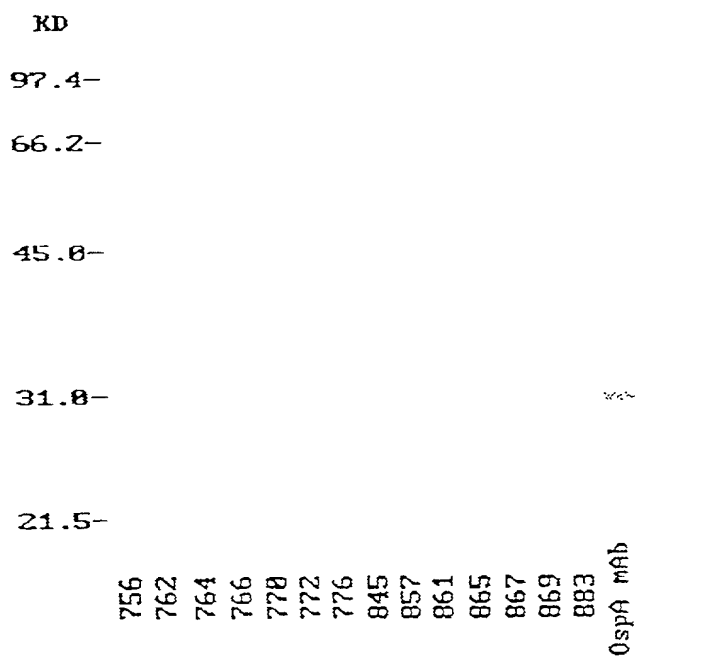
## FIGURE 18A



Nonvaccinates Post Tick Challenge  
C-1-11 Immunoblot

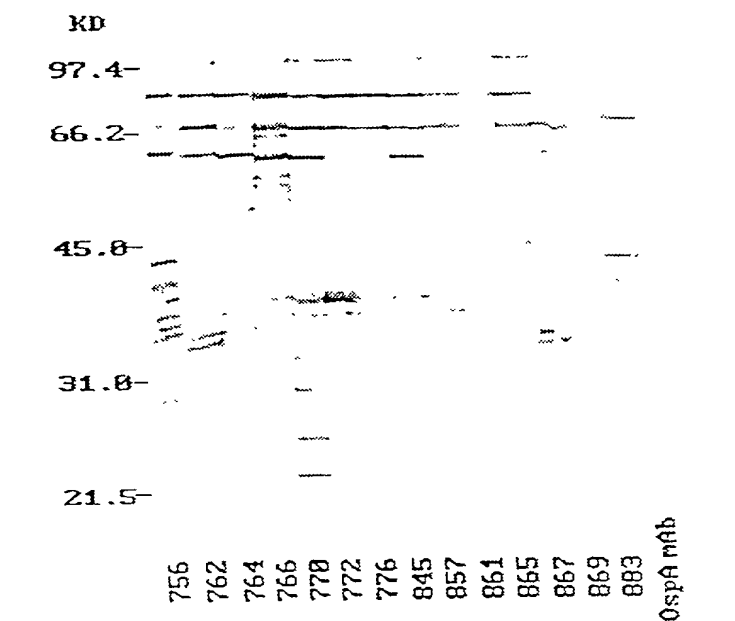
## FIGURE 18B

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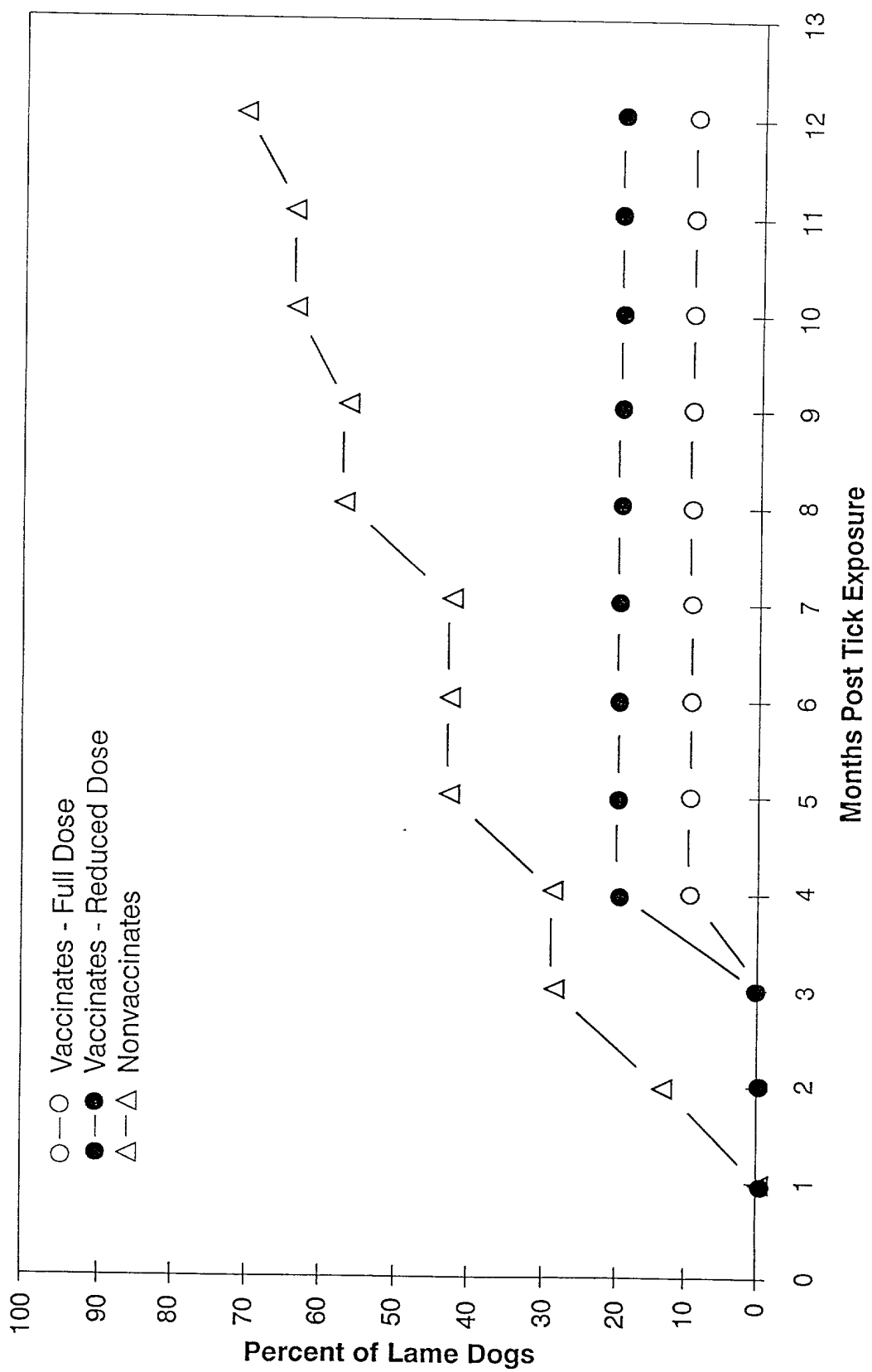
Nonvaccinates Prechallenge  
S-1-10 Immunoblot

**FIGURE 19A**



Nonvaccinates Post Tick Challenge  
S-1-10 Immunoblot

**FIGURE 19B**

**FIGURE 20**